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Paper Abstracts
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Influence of observation position on LIPCOF-Grading on OCT images

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Purpose: To evaluate (i) the impact of scan misalignment on LIPCOF grading and (ii) the agreement of LIPCOF grading between two OCT devices employing different imaging technologies.
Method: Twenty participants (mean age 25.6 ± 3.6 years; 10 female, 10 male) were recruited from the Cologne School of Optometry. For each participant, 21 vertical OCT line scans (length = 2.80 mm) were acquired at the LIPCOF region below the nasal and temporal limbus using both the Spectralis SD-OCT and Anterion SS-OCT (Heidelberg Engineering, Heidelberg, Germany). For each device, the intended LIPCOF area directly below the limbus, as well as 1 mm outward (towards the canthus) and inward (towards the pupil), were analysed. Visible LIPCOF were identified and graded from the OCT images by a single masked examiner in randomized order.
Results: Nasal LIPCOF grades obtained with the Spectralis SD-OCT were significantly higher than those from the Anterion SS-OCT at the intended position (+0.45, $p = 0.042$) and at the 1 mm outward position (+0.40, $p = 0.027$), while no significant differences were observed at other locations ($p > 0.05$). Temporal LIPCOF grades showed significant correlations between intended and decentered positions for both devices (SS-OCT: outward $r = 0.742$, inward $r = 0.475$, $p < 0.05$; SD-OCT: outward $r = 0.675$, inward $r = 0.564$, $p < 0.05$). No significant correlations were found for nasal LIPCOF grades between intended and decentered positions ($p > 0.05$). The concordance rate between intended and decentered grading was higher for outward (towards canthus) decentration (65%) than for inward (towards pupil) decentration (46%).
Conclusions: Misalignment during LIPCOF grading has a greater impact on nasal regions and inward (towards pupil) decentrations. The observed differences in nasal LIPCOF grades between devices may result from variations in OCT wavelength and image resolution.

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